

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

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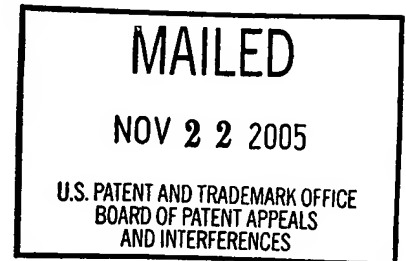
BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte RAINER MANGOLD,  
KRZYSZTOF-DANIEL MALOWANIEC,  
and PETRA ECKEL

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Appeal No. 2006-0034  
Application 10/089,561



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ON BRIEF

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Before KIMLIN, GARRIS, and TIMM, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-19.

Claim 1 is illustrative:

1. A composite material for producing a layer of a disposable absorbent hygienic article that comes into physical contact with the body, made of at least two nonwoven material layers joined by thermal processing, where the upper layer for physical contact with the body is formed of a mixture of mono-component fibers and bi-component fibers and the percentage of bi-component fibers amounts

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to 30 - 70% by weight of the upper layer, and where the denier of the fibers of the upper layer is at most 3.5 dtex, and where the lower layer includes at least 40% by weight of bi-component fibers whose higher melting component is made of PET and whose lower melting component has a lower melting point than that of the mono-component fibers of the upper layer, and where the denier of the bi-component fibers of the lower layer is between 4 and 10 dtex.

The examiner relies upon the following references in the rejection of the appealed claims:

Lloyd et al. (Lloyd)	H1698	Nov. 4, 1997
Newkirk	4,883,707	Nov. 28, 1989
Winebarger	5,057,357	Oct. 15, 1991
Barge et al. (Barge)	5,989,688	Nov. 23, 1999
Hermann (German Patent)	DE 43 38 326	Nov. 10, 1983
Foley (European Patent)	0 685 215	Dec. 6, 1995

Appellants' claimed invention is directed to a composite material for a disposable, absorbent, hygienic article which comes in contact with the body of a human. The composite comprises at least two nonwoven material layers that are thermally bonded together. The upper layer, which is in physical contact with the body, is formed of a mixture of mono-component fibers and bi-component fibers. The bi-component fibers in the upper layer are present in an amount of 30-70% by weight and have a denier of at most 3.5 dtex. The lower layer comprises a bi-component fiber in an amount of at least 40% by weight having a denier between 4 and 10 dtex.

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Appealed claims 1, 4, 5, 7-10 and 12-15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Newkirk. The appealed claims also stand rejected under 35 U.S.C. § 103 as follows:

- (a) claims 1, 4-10 and 12-15 over Barge,
- (b) claims 2 and 3 over Newkirk in view of Winebarger,
- (c) claims 2 and 3 over Barge in view of Winebarger,
- (d) claim 6 over Newkirk in view of Barge,
- (e) claim 11 over Newkirk in view of Lloyd,
- (f) claim 11 over Barge in view of Lloyd,
- (g) claims 16-19 over Newkirk in view of Hermann,
- (h) claims 16-19 over Barge in view of Hermann.

We have thoroughly reviewed each of appellants' arguments for patentability. However, we find that the examiner's conclusion of law regarding the unpatentability of the claimed invention is well-founded and supported by the prior art evidence relied upon. Accordingly, we will sustain the examiner's rejections for the reasons set forth in the answer, which we incorporate herein, and we add the following primarily for emphasis.

We consider first the examiner's rejection under Section 102 over Newkirk. Appellants do not dispute the examiner's factual determination that Newkirk, like appellants, discloses a composite

material for making a disposal, absorbent, hygienic article that comprises an upper and lower layer, which layers may comprise 100% bi-component fibers or mixtures of the fibers with mono-component fibers. Indeed, Newkirk expressly discloses that "[n]either the high denier lofty layer nor the low denier soft layer need be composed entirely of the bi-component fibers" (column 3, lines 43-45).

Appellants cite Newkirk's disclosure that "[a]ddition of greater than 25-30% matrix fiber may reduce the strength to a level of concern for use as a traditional diaper top sheet" (column 3, lines 49-52, the matrix fiber being the mono-component fiber). Appellants point to Newkirk's teaching away from using greater amounts of mono-component fibers and maintains that "[i]n contrast, the invention as set forth in claim 1 specifies that the upper layer contains a percentage of mono-component fibers in amounts of 30 percent or greater in direct contradiction to the teaching of Newkirk" (page 11 of principal brief, fourth paragraph). However, as properly noted by the examiner, claim 1 on appeal fails to recite that the mono-component fibers are present in an amount of 30 percent or greater. Rather, claim 1 recites that the bi-component fibers are in an amount of 30-70% by weight, and the "open" nature of the claim results in the mono-component fibers being present in

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an amount of anywhere from 70 to 30 percent by weight, along with other unspecified components. Since Newkirk discloses that the upper layer may contain 30 percent mono-component fibers and, therefore, 70 percent bi-component fibers, the examiner correctly finds that Newkirk meets the requirement of claim 1.

Appellants also contend that Newkirk "specifically teaches that bi-component materials for both layers have a denier less than 3". However, notwithstanding that Newkirk exemplifies bi-component fibers having a denier less than 3, Newkirk discloses that the high-loft layer has an average denier of 3 or greater and that the other layer has an average denier of 3 or less. Since a denier of 3 approximates a denier or 3.3 dtex, we agree with the examiner that Newkirk's layer having a denier for the fibers of 3.3 dtex or less describes the claimed upper layer having a denier of fibers of at most 3.5 dtex. Also, we find that the layer of Newkirk having a denier of fibers of 3.3 dtex or greater describes the claimed lower layer of fibers having a dtex of 4. Manifestly, the next whole integer after 3 is 4. Since Newkirk clearly teaches that both layers may comprise entirely bi-component fibers, we find no merit in appellants' argument that the reference disclosure of 3 denier or greater and 3 denier or less is a disclosure of an average value of

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a mixture of fibers wherein the bi-component fibers have a denier less than 3.

As for separately argued claims 7-9, each of which embraces lower layers comprising 100% bi-component fibers ("at least 60%", "at least 80%", 100%"), we concur with the examiner that Newkirk provides a clear teaching that both layers may comprise 100% by weight of bi-component fibers.

The additional arguments presented by appellants with respect to other dependent claims have been adequately addressed by the examiner, and we will not elaborate further.

We now turn to the examiner's Section 103 rejection over Barge. Barge also discloses a composite material for making a disposal, absorbent hygienic material which essentially corresponds to the claimed upper and lower layers. As set forth by the examiner, Barge teaches an upper layer having a dtex of 1.7 to 3.2 which meets the claimed "at most 3.5 dtex." The reference also teaches that the upper layer may comprise a mixture of single and bi-component fibers. Since it was known in the art that the amount of mono-component fibers determines both the softness and strength of the layer, we agree with the examiner that it would have been obvious for one ordinary skill in the art to optimize the result effective variable (amount of mono-component fiber) in order to arrive at the

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desired balance of softness and strength in the layer. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). Hence, we agree with the examiner that the claimed amount of 30-70% by weight of bi-component fibers in the upper layer would have been prima facie obvious to one of ordinary skill in the art. As pointed out by the examiner, "the broad weight range of 30 to 70 percent is not indicative of any criticality or careful selection" with the respect to the amount of bi-component fibers (page 16 of answer, second sentence).

Appellants also maintain that since Barge teaches that the upper layer comprises fibers having a denier in the range of 1-7 dtex, there is no teaching in the reference of having a denier of at most 3.5 dtex, as claimed. However, as explained by the examiner and acknowledged by appellants, Barge expressly discloses a preference of 1.7 to 3 dtex. As such, we are convinced that the disclosed preference in Barge would have made the claimed range obvious to one of ordinary skill in the art.

Appellants also point to the Barge disclosure that "[i]n bulky layers containing both binder fibers and matrix fibers, the majority of the fibers will often be matrix fibers" (column 6, lines 39-40). Appellants conclude that "[t]his directs the skilled artisan away from a teaching where the lower layer includes at minimum 40 percent

by weight bi-component fibers" (page 20 of principal brief, last paragraph). However, as apparently acknowledged by appellants, Barge discloses that the binder fibers (bi-component fibers) can be present in amounts of 65% and 50% by weight, as well as 40% by weight (see column 6, lines 41-43). Consequently, it would have been obvious for one of ordinary skill in the art to utilize at least 40 percent by weight of bi-component fibers in the lower layer, as presently claimed. As for the claimed "denier of the bi-component fibers of the lower layer is between 4 and 10 dtex" (claim 1), Barge specifically discloses that "the first bulky layer will typically comprise fibers in the range of about 5-12 dtex, which facilitates low retention and high liquid transfer through this layer, thereby allowing the surface of the absorbent article to remain dry" (column 6, lines 63-67).

Concerning the examiner's Section 103 rejections over additional prior art references for features recited in various dependent claims, we will adopt the examiner's rationale as set forth in the answer. We do note, however, that appellants base no argument upon objective evidence of non-obviousness, such as unexpected results, which would serve to rebut the inference of obviousness established by the cited prior art.

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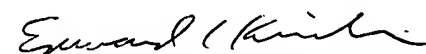
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As a final point, in the event of further prosecution of the subject matter at bar, the examiner should consider expanding the Section 102 rejection over Newkirk to be under Section 103, as well.


In conclusion, based on the foregoing and the reasons well-stated by the examiner, the examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.36(a)(iv) (effective Sept. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sept, 7, 2004)).

AFFIRMED



Edward C. Kimlin )  
Administrative Patent Judge )

  
Bradley R. Garriss )  
Administrative Patent Judge )

BOARD OF PATENT  
APPEALS AND  
INTERFERENCES



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